Hooked - How to Build Habit-Forming Products (2014, 242pp)
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A Summary

Introduction
Cognitive psychologists define habits as "automatic behaviours triggered by situational cues": behaviours done with little or no conscious thought. Companies increasingly find that their economic value is a function of the strength of the habits they create. Forming these habits is imperative for the survival of many products. And as infinite distractions compete for our attention, companies are learning to master novel tactics to stay relevant in users' minds.

Instead of relying on expensive marketing, habit-forming companies link their services to the users' daily routines and emotions. A habit is at work when users feel a tad bored and instantly open twitter. They feel lonely and start scrolling facebook. A question comes to mind and immediate they query google. The first-to-mind solution wins.

How do products create these habits? The answer: product creators can profoundly change behavior by guiding users through a series of experiences called hooks. The more often users run through these hooks, the more likely they are form habits.

This book will take you through the Hook Model : a four-phase process companies use to form habits. Through consecutive Hook cycles, successful products reach their ultimate goal of unprompted user engagement, bringing users back repeatedly, without depending on costly advertising or aggressive messaging.

The four steps of the Hook Model are
1. Trigger
2. Action
3. Variable Reward
4. Investment
Below, is an explanation of what each mean in detail

1. Trigger – A trigger is the actuator of behavior – the spark plug in the engine. Triggers come in two types – external and internal. Habit-forming products start by alerting users with external triggers like an e-mail, web link, or say an app icon the phone. By cycling through successive hooks, users begin to form associations with internal triggers, which attach to existing behaviours and emotions.

2. Action – Following the trigger comes the action – behavior done in anticipation of a reward. This phase of the hook draws upon the art and science of usability design to reveal how products drive specific user actions. Companies leverage two basic pulleys of human behavior to increase the likelihood of an action occurring: the ease of performing an action and the psychological motivation to do it.

3. Variable Reward – What distinguishes the Hook Model from a plain-vanilla feedback loop is the Hook's ability to create a craving. Feedback loops are all around us, but predictable ones don't create a craving. The unsurprising response of your fridge light when you open the door doesn't drive you to keep opening it again and again. However, add some variability in the mix – suppose a different treat magically appears in your fridge every time you open it – and voila, intrigue is created.

   Research shows that levels of the neurotransmitter dopamine surge when the brain is expecting a reward. Introducing variability multiplies the effect, creating a focused state, which suppresses the areas of the brain associated with judgement and reason while activating the parts associated with wanting and desire. Although classic examples include slot machines and lotteries, variable rewards are prevalent in many other habit-forming products.

4. Investment - The last phase of the Hook Model is where the user does a bit of work. The investment phase increases the odds that the user will make another pass through the Hook cycle in the future. By investment, it doesn't mean that the user will open up his wallets and move on. Rather the user will put something into the product of service such as time, data, effort, social capital (or even money), thereby improving the service for the next go-around.

   Inviting friends, stating preferences, building virtual assets and learning to use new features are all investments users make to improve their experience. These commitments can be leveraged to make the trigger more engaging, the action easier, and the reward more exciting with every pass through the hook cycle.

Habit-forming products can do more good than harm. Choice Architecture, a concept described by famed scholars Thaler, Sunstein and Balz in their eponymous paper, offers techniques to influence people's decisions and affect behavioural outcomes. Ultimately

though, the practice should be "used to help nudge people to make better choices (as judged by themselves)".

The Habit Zone
Ingrained habits – behaviours done with little or no conscious thought – account for nearly half of our daily actions. Habits are one of the ways in which the brain learns complex behaviours such as driving. It does so by storing automatic responses in the basal ganglia, an area of the brain associated with involuntary actions, thereby freeing the brain to focus our attention on other things.

Habits form when the brain takes a shortcut and stops actively deliberating on what to do next. Nail biting starts initially for a reason (to remove a long nail), but over time becomes a behavior that occurs for no conscious purpose, typically due to a trigger, usually stress. The more the biter associates the act of nail chomping with the temporary relief it provides, the harder it becomes to change the conditioned response. Like nail biting, many of our daily decisions are made simply because that was the way we have found resolution in the past.

Habits are good for business. Habit-forming products change user behavior and create unprompted user engagement. The aim is to influence customers to use your products on their own, again and again, without relying on overt calls to action such as ads or promotions. Once a habit is formed, the user is automatically triggered to use the product during routine events such as wanting to kill time while waiting in line.

For companies selling infrequently used products such as home loans etc., there is no need to focus on everyday engagement and cultivate habitual users. This book will focus on businesses that require ongoing, unprompted user engagement and therefore need to build user habits.

Companies that are able to build strong user habits get the following business benefits – 1) higher customer life-time value 2) greater pricing flexibility, 3) supercharged growth, and 4) a sharper competitive edge.

1) Fostering consumer habits is an effective way to increase the value of a company by driving higher customer life-time value: the amount of money made from a customer before that person switches to a competitor, stops using the product or dies. User habits increase the

length and frequency of customer usage, increasing in a higher customer life-time value.

2) Warren Buffett said "You can determine the strength of a business over time by the amount of agony they go through in raising prices." Buffett realized that as customers form routines around a product, they come to depend upon it and become less sensitive to price. This consumer psychology is the rationale behind their famed investments in companies such as See's Candies and Coca-Cola.

3) Users who continuously find value in a product are more likely to tell their friends about it. Frequent usage creates more opportunities to encourage people to invite their friends, broadcast content, and share through word of mouth. More frequent usage also drives more viral growth by cutting down Viral Cycle Time – the amount of time it takes a user to invite another user. A product with a viral cycle time of 2 days will have 20,470 users in 20 days, but with a viral cycle time of 1 day, it will have 20 million users. Imagine then the power of a business like facebook where people check in more than once daily!

4) Products that change customer routines are less susceptible to attacks from other companies. A classic paper by Prof John Gourville, HBS says that "many innovations fail because consumers irrationally overvalue the old while companies irrationally overvalue the new". Gourville claims that for new products to succeed they must be 9x better than old (because old products are overvalued by a degree of 3, while new products are undervalued by 3x). Products that require a high degree of behavior change are doomed to fail even if the benefits of using the new products are clear and substantial. This is also because many users increase their dependency on habit-forming products by storing value in them (QWERTY keyboard, learning how to use Evernote etc)

Successfully changing long-term user habits is rare. Companies that succeed in building a habit-forming business are often associated with game-changing, wildly successful innovation. But like any other discipline, habit design has rules and caveats that define and explain why some products change lives while others do not.

For one, new behaviours have a short half-life, as our minds tend to revert to old established behavior patterns over time. Behaviours are LIFO – last in, first out. The habits you have recently acquired are the ones most likely to go soonest. Old habits die hard. Even when we change our routines, neural pathways remain etched in our brains, ready to be reactivated when we lose focus. This presents an

especially difficult challenge for product designers trying to create new lines or businesses based on forming new habits.

A company can determine its product's habit-forming potential by plotting two factors : frequency (how often the behavior occurs) and perceived utility (how useful and rewarding the behavior is in the user's mind over alternative solutions).
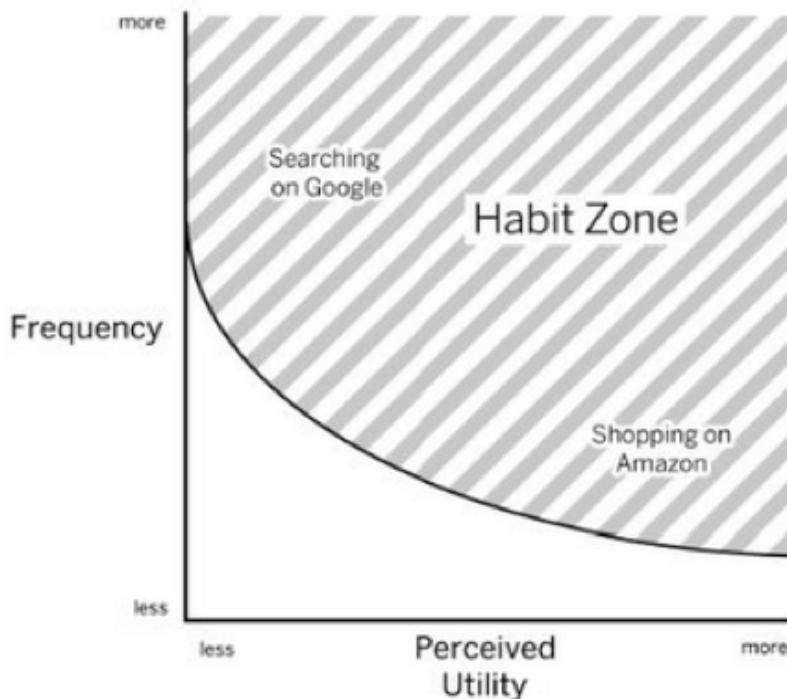
As represented in the above figure, a behavior that occurs with enough frequency and perceived utility enters the Habit Zone, helping to make it a default behavior. If either of these factors falls short and is below the threshold, it is less likely that the behavior will become a habit. Some behaviours never become habits because they do not occur frequently enough. And for an infrequent action to become a habit, the perceived utility must be very high, either from gaining pleasure or avoiding pain. On the other axis, even a behaviour that provides minimal perceived benefit can become a habit simply because it offers frequently.

This concept is meant to be a guiding theory and hence the scale of the illustration is left blank. Also there is no universal timescale to turn all behaviours into habits. A 2010 study showed that some habits can be formed in a matter of weeks while others can take more than five months.

Habit-forming products often start as nice-to-haves (vitamins) but once the habit is formed, they become must-haves (painkillers). Habit-forming products alleviate users' pain by relieving a pronounced itch.

Painkillers solve an obvious need, relieving a specific pain, and often have quantifiable markets. Vitamins, by contrast, do not necessarily solve an obvious pain point. Instead they appeal to users' emotional rather than functional needs.

Trigger
Triggers are the first step in the Hook Model. Triggers, whether we are conscious of them or not, cue us to take an action.
Triggers are of two kinds – external and internal. Let us look at these in detail.

External triggers tell the user what to do next by placing the information in the user's environment. Examples include alarms, emails, notifications etc. Typically external triggers arrive with a call to action. Ideally there should be one call to action – too many choices or irrelevant options can cause hesitation, confusion or worse – abandonment. Reducing the thinking required to take the next action increases the likelihood of the desired behavior occurring subconsciously.

Do note that certain external triggers can also convey implicit information about the next desired user action. Web links are for clicking, app icons are for tapping etc. Information is embedded into these interfaces and their only purpose is to prompt us into action

There are four types of external triggers –
1. Paid triggers – advertising, search engine marketing are examples of paid triggers. These are effective but costly ways to cue users to action. Typically they are used to acquire new users and then leverage other triggers to bring them back.
2. Earned triggers – these are free but require investment in the form of PR. Examples include coverage, product placements etc. Awareness created by earned triggers can be short-lived (post product hunt lull).
3. Relationship triggers – Word of mouth, product referrals from a friend, a facebook 'like' etc are all examples of relationship triggers. Proper use of relationship triggers requires building an engaged user base that is enthusiastic about sharing the benefits of the product with others.

4. Owned triggers – consume a piece of real estate in the user's environment. These are typically opted in, e.g., an app downloaded by the user, an email newsletter that you subscribe to etc.

Yet external triggers are only the first step. The ultimate goal of all external triggers is to propel users into and through the Hook Model, so that, after successive cycles, they do not need further prompting from external triggers. When users form habits, they are cued by a different kind of trigger: internal triggers.

When a product becomes tightly coupled with a thought, an emotion, or a preexisting routine, it leverages an internal trigger, e.g., boredom, restlessness, an itch for connecting with someone and staving off loneliness etc. You can't see, touch or hear an internal trigger. They manifest automatically in your mind. Connecting internal triggers with a product is the brass ring of technology.

Emotions, especially negative ones are powerful internal triggers. Boredom, frustration, loneliness, confusion, indecisiveness often instigate a slight pain or irritation and prompt an almost immediate and often mindless action to quell the negative sensation, e.g., boredom and using twitter. Positive emotions can also serve as internal triggers. A desire to share good news can be thought of as an attempt to find and maintain social connections.

As product designers, it is our goal to solve these problems and eliminate pain – and scratch the user's itch. Users who find that a product alleviates their pain will form strong, positive associations with the product over time. Gradually, in weeks or months, these associations cement into a habit as users turn to your product when experiencing certain internal triggers. Once technology has created an association in users' minds that the product is solution of choice, they return on their own, no longer needing prompts from external triggers.

How do product designers design for triggers? Products that successfully create habits soothe user's pain by laying claim to a particular feeling. Therefore, product designers must know their users' internal triggers - the pain that they seek to resolve. This is done by understanding the consumer,
typically through ethnographic methods (observation), usability studies, empathy maps.

Evan Williams says "We often think the internet enables you to do new things...but people just want to do the same things they've always done." These common needs are timeless and universal. Yet, talking to users wont reveal these wants, as people often don't know which emotions motivate them. (Their declared preferences or what they wish they did are far different from their revealed preferences or what they actually. Behind these discrepancies are opportunities).

How do you identify the particular pain point or frustration in emotional terms (not in terms of product features)? The best way to do so is to try and learn the drivers behind particularly successful and habit-forming products, so that you understand how they solve user's problems.

A good way to find that out is to ask the question why as many times as you need to get to an emotion. Usually this happens by the fifth why. (adapted from the Toyota Production System and is called the 5 Whys Method). Using the 5 Whys Method, you understand that the core emotion associated with social networks and the driver of its usage is to stay in touch because you are afraid of being out of the loop (fear of missing out).(linked to emotional state of loneliness).

As we know, the ultimate goal of a habit-forming product is to solve the user's pain by creating an association so that the user identifies the company's product or service as the source of relief. Now that we have an understanding of the user's pain, we can move on to the next step of connecting the user's problem with your solution. Let us examine how moving people from triggers to actions is critical in establishing new routines.

Action
The next step in the Hook Model is action. The trigger, internal or external, informs the user of what to do next. The action should be the simplest behaviour to perform in anticipation of reward (next step).

To initiate action, doing must be easier than thinking. Remember that a habit is behaviour done with little or no conscious thought. The more effort required - physical or mental - to do the required action, the less likely it is to occur.

How can a product designer influence action? Is there a formula for behaviour? Dr B J Fogg at Stanford's Persuasive Technology Lab has

developed a model that serves as a relatively simple way to understand key drivers of actions.

The Fogg Behaviour Model is represented in the formula B = MAT, which states that a given behaviour will occur when motivation (M), ability (A) and trigger (T) are present at the same time and in sufficient degrees. Fogg states
- the user must have sufficient motivation
- the user must have the ability to complete the desired action
- a trigger must be present to complete the behaviour

If any component of this formula is missing or inadequate, the user will not cross the 'action line', and the behaviour will not occur.

In the previous chapter we covered triggers. Let us now look at the other two components of the Fogg Behaviour Model: motivation and ability.

Motivation is the level of desire to take an action (cued by the trigger). It is the "energy for action". Fogg argues that there are three core motivators that drive us to act. All humans, he says, are motivated to
1) seek pleasure and avoid pain
2) seek hope and avoid fear
3) seek social acceptance and avoid rejection

While internal triggers are the frequent, everyday itch experienced by users, the right motivators create action by offering the promise of desirable outcomes (i.e., a satisfying scratch). However even with the right trigger enabled and motivation running high, product designers find that people still dont behave the way they want them to. What is missing? Usability - or rather, the ability of the user to take action easily.

According to the Fogg Behaviour Model, ability is the capacity to do a particular behaviour. To enhance ability, Fogg advises us to focus on six elements of simplicity, the factors that enhance or influence a task's difficulty. These include
1) Time - how long it takes to complete an action
2) Money - the monetary cost of taking an action
3) Physical effort - the amount of labour involved in taking that action
4) Brain cycles - the level of mental effort and focus required to take an action (including set up time)
5) Social deviance - how accepted that behaviour is by others

6) Non-routine - how much the action matches or disrupts existing routine times

To increase the likelihood that an action will occur, Fogg instructs designers to focus on simplicity as a function of the user's scarcest resource at the moment. In other words, identify what the user is missing or what is making it difficult for the user to accomplish the desired action. Is the user short of time? Or exhausted after a long day at work? Or too complex to understand?

These factors will differ by person and by context. So designers should ask "What is the thing that is missing that would allow my users to proceed to the next step?" Designing with an eye towards simplifying the overall user experience reduces friction, removes obstacles and helps push the user across Fogg's action line.

As examples, the book cites iPhone's camera application, Twitter's sharing button, Google search as preeminent examples of how products have been designed to move users quickly into Hook's next phase.

Motivation or Ability? Which should you increase first? Start with ability. Increasing motivation is expensive and time consuming. Also people visiting a site are often multi-tasking and have little patience for reading explanations about why they should do something. In such a context, influencing behaviour by reducing the effort required to perform an action is more effective than increasing someone's desire to do it. Make your product so simple that users already know how to use it, and you have got a winner on your hands.

In addition to the elements of simplicity, product designers can also take advantage of cognitive biases that are prevalent in the human mind to boost users' motivations or increase their ability. Typically we use these cognitive biases (or Heuristics - mental shortcuts) while taking decisions and forming opinions. Four common brain biases we can tap into to enable actions are
1) scarcity effect - we value something more when it is scarce, even if it is more expensive
2) framing effect - the mind takes shortcuts informed by our surroundings to make quick and sometimes erroneous judgements
3) anchoring effect - people often anchor to one piece of information when making a decision (usage of discounts)

4) endowed progress effect - usage of punch cards etc to encourage people to feel that they are nearing a goal and thereby enhance motivation. Other examples are LinkedIn profile strength.

Now that we have understood how to take users from trigger to action, let us look at what they have come for - the reward that scratches the itch. What is it that users want? What keeps us coming back again and again to habit-forming experiences and technologies?

<u>Variable Reward</u>
What draws us to act is not so much the sensation that we receive from the reward itself, but the need to alleviate the craving for that reward.

There are 3 types of variable rewards. Habit-forming products utilize one or more of these reward types. These are
- rewards of the tribe: rewards that make us feel accepted, attractive, important and included, driven by our connectedness with other people (facebook, stack overflow, quora which have social fora are examples of sites that confer rewards via social connectedness)
- rewards of the hunt: material resources and information (twitter, pinterest etc)
- rewards of the self: intrinsic rewards of mastery, competence and completion (such as completing a complex table-top puzzle, codeacademy)

Email is a good example of a reward system that has all three reward types (stay in touch, get something useful, and gain a sense of completion from reading all mails).

While designing reward systems,
1) allow people to maintain a sense of autonomy. A research study revealed that people are more likely to give money when told "But you are free to give or refuse...". The phrase "But you are free..." disarms our instinctive rejection of being told what to do, and helps overcome *reactance*, our hair-trigger response to threats to our autonomy (boss micromanagement etc). Hence product designers should build products to leverage behaviours users want to do, not have to do (example of fitness apps which force you to enter calorie info).
2) remember that there should be certain variability in the rewards. Experiences with finite variability become increasingly predictable with use and lose their appeal over time. To hold our attention, products must have an ongoing degree of novelty. But

not all infintely variable reward systems work. Gamification is one way to bring in some unpredictability. But gamification can work only if users have some compelling reason to come back to the original product in the first place. It will fail if there is no inherent interest in the product itself. Secondly, no amount of gamification will spur engagement if there is a mismatch between customer's problem and the company's assumed solution.

Investment

In a standard feedback loop, the cue, action and reward cycle can change our immediate behaviour. But when it comes to how we form habits with products, and critically to form the associations needed to create unprompted user engagement, something additional is needed. That additional element is investment, in which users are prompted to do a bit of work and put something of value into the system. This increases the likelihood of their and others using the system.

Investment is about the anticipation of longer-term rewards, and not immediate gratification. Deliberately, the investment phase increases friction. But do note that asking users to do a bit of work comes after users have received variable rewards, not before. This timing is critical. By asking for the investment after the reward, you have an opportunity to leverage a central trait of human behaviour, reciprocation.

How does investment enable formation of associations creating unprompted user engagement?
The second most important factor in habit formation (ref The Habit Zone), after frequency of new behaviour, is a change in the participant's attitude towards the behaviour. Attitude change is the movement up the perceived utility axis until the behaviour enters the habit zone.

In order for a change in attitude to occur, there has to be a change in how users perceive the behaviour. Let us examine how users' perceptions can change.
1) the more users invest their time and effort into a product or service, the more they value it (Ikea Effect).
2) we seek to be consistent with our past behaviours - we think our judgement is not clouded by past actions, but this is not so. (This is one kind of a cognitive bias that many leaders such as Steve Jobs lack)

3) we avoid cognitive dissonance, i.e., we change our perception of a task we don't like, if we are forced to or come under social pressure to consume, such as alcohol. Why do we do this? To avoid the cognitive dissonance of not liking something that others seem to take so much pleasure in, we slowly change our perception of the thing we once did not enjoy.

Together, these three tendencies (and note that each is linked in turn to the earlier) lead to a mental process called rationalization, in which we change our attitudes and beliefs to adapt psychologically.

Now that we have understood the roots of attitude change, let us look at how product designers can design products for investment, and then get users to commit to a service until it becomes a habit?

The stored value users put into the product increases the likelihood they will use it again in the future, and switch to a competing product. These come in the following forms
- content, data (iTunes)
- data (LinkedIn)
- followers / contacts (twitter)
- reputation (yelp)
- skill (excel)

We know that habit-forming products create a mental association with an internal trigger. Yet to create the habit, users must first use the product through multiple cycles of the Hook Model. Therefore external triggers must be used to bring users back around again to start another cycle. Users then set future triggers (e.g., facebook updates) during the investment phase, providing companies with an opportunity to start the cycle all over again (e.g., product messages another person that he/she is mentioned) and reengage the user. Eventually the product gets associated with a core emotional state of the user, thereby linking product usage to internal triggers.

Habits
The Hook Model is designed to connect the user's problem with the designer's solution frequently enough to form a habit. It is a framework for building products that solve user needs through long-term engagement.

As users pass through successive cycles of the Hook Model, they learn to meet their needs with the habit-forming product. Effective

hooks transition users from relying upon external triggers to cueing mental associations with internal triggers.

Answering these five fundamental questions enable you to create a Hook Model for an initial prototype for a habit-forming system. (It can also uncover potential weaknesses in an existing product's habit-forming potential.)

1. What do users really want? What pain is your product relieving? (Internal Trigger)
2. What brings users to your product? (External Trigger)
3. What is the simplest action users take in anticipation of reward, and how can you simplify your product to make the action easier? (Action)
4. Are users fulfilled by the reward yet wanting more? (Variable Reward)
5. What "bit of work" do users invest in your product? Does it load the next trigger and store value to improve the product with use? (Investment)

But just developing a prototype is not enough. It is important to take into the market and iterate continuously to make it into a habit-forming product. This can be done through a structured process called Habit Testing.

Habit Testing is a formal route to enhance your product's effectiveness in building user habits. It consists of three steps (mimicking the Lean Startup Movement's "build, measure, learn") which are

-   Identify: who are the product's <u>Habitual Users</u>? Use site data or make educated guesses - defining habitual is tough - can differ from site to site; typically 5% of users are enough as Habitual Users, though you will need more active users to sustain your product). If you dont think even 5% are habitual, your product has to go back to the drawing board.
-   Codify: now that you have identified habitual users look for a *<u>Habit Path</u>* - a series of similiar actions shared by your most loyal users. Twitter found that once new users followed 30 other members, they hit a tipping point that dramatically increased odds that they would continue using the site). Every product has a different set of actions that devoted users take; the goal of finding the Habit Path is to determine which of these steps is critical for creating devoted users so you can modify the experience to encourage this behaviour

- Modify: Armed with these insights, it is time to revisit your product and identify ways to nudge new users down the same Habit Path as your Habitual Users.

How do you discover Habit-forming Opportunities in the first place?

As Paul Graham says, start with yourself. Instead of asking 'what problem should I solve' ask 'what problem do I wish someone else would solve for me?' Studying your own needs can lead to remarkable discoveries and new ideas because the designer always has a direct line to at least one user - himself or herself.

Look at early adopters and nascent behaviours. Look at products that are dismissed as toys or niche markets. Most popular products begin that way. As these products slowly go mainstream, these nascent behaviours expand, and the popularity of the product encourages new types of behaviours (internet and twitter / uber).

Look at new enabling technologies. Identifying areas where a new technology makes cycling through the Hook Model faster, make a behaviour easier or more frequent or more rewarding provides fertile ground for new product ideas.

Also look at how changing user interactions (because of tech) or new interfaces can create new routines. The availability of high-quality cameras (new interface) on phones meant users could capture photos constantly - Instagram took advantage of that. Snapchat is another great example of changing user interactions (video) due to low cost of bandwidth.

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Books suggested in Hooked
1. *Something Really New* - 3 simple steps to creating truly innovative products - Denis Hauptly.
Understand reason people use a product, lay out steps customer uses to get the job done, now start removing steps until you reach the simplest process.
2. *Seductive Interaction Design* - Stephen Anderson
Mental Notes - a tool for designers to help build better products through heuristics. This is a deck of 50 cards, with each card dealing with a specific cognitive bias (such as endowed progress effect etc). Designers can then have conversations around how they can utilize the principle to enhance product design.